



FEDERAL REPUBLIC OF NIGERIA

National Healthcare Waste Management Policy

Federal Ministry of Environment in collaboration with
Federal Ministry of Health

2013

FOREWORD

Nigeria and her citizens are exposed to unnecessary environmental risks and nosocomial infections due to unsafe Healthcare Waste Management (HCWM) practices. However, experience has proven that wastes originating from healthcare facilities, when properly managed, generally pose no greater risk than that of properly treated municipal or industrial wastes.

Nigeria with an increasing population of approximately 167 million (2010, census projected at 3.2% rate), has a corresponding increase in the generation of healthcare wastes. The poor management of these wastes has become a matter of great concern.

Standardizing Healthcare Wastes Management (HCWM) practices starts with the development of National Policy, National Guidelines and the National Healthcare Waste Management (HWM) action plan.

These documents, which have been validated by stakeholders at the National Stakeholders forum, are intended to address environmental and health problems associated with poor management of healthcare wastes. It is also intended to provide a roadmap to safe Healthcare Waste Management (HCWM) practices in all Healthcare facilities in Nigeria.

The use of standard segregation procedure employing the three colour coded bin liner and bin system is fundamental to the proper management of healthcare wastes in Nigeria.

Proper management of HCW depends to a large extent on strong Healthcare Facilities (HCF) administration and organization ready to embrace the options contained in these documents. It is important to note that neither the National Healthcare Bill before the National Assembly nor the National Environmental Management Bill make specific and detailed provisions for HCWM in Nigeria. I therefore advocate that a HCWM Bill that will specifically deal with HCWM be proposed to National Assembly for enactment into law.

It is my hope that the implementation of these documents by the stakeholders will rid Nigeria and her citizens of the environmental and health burdens associated with unwholesome HCWM practices.

**Mrs. Hadiza Ibrahim Mailafia
The Honourable Minister,
Federal Ministry of Environment**

PREFACE

Healthcare facilities by their activities provide many important benefits to the community, but they can also unintentionally do great harm through poor management of wastes generated in these facilities. Poor management of Health Care Waste exposes the patients, health care workers, waste handlers and the community to injuries, infections, and diseases. In addition, it creates opportunities for reuse of disposable medical equipment (particularly syringes) and re-sale with its attendant consequences.

The 2004 baseline assessment survey on Injection safety and healthcare waste management indicated a high percentage of health facilities visited were not adhering to proper medical waste management practices. Although a follow on assessment in 2008, in five states and FCT where interventions occurred showed some improvement in certain areas, the overall HCWM practice was still dismal. This situation predisposes people to the risk of infection through accidental needle stick injuries due to poor waste management and improper disposal of medical waste

The assessment led to the development of National Policy on Injection Safety and Healthcare Waste Management by the Federal Ministry of Health. The policy was developed to address unsafe injections and resultant poor healthcare waste management practices in Nigeria particularly among health workers, patients and the community.

More attention needs to be given particularly to health care waste management. In view of the challenge presented by healthcare waste and its management, the Federal Ministry of Environment in collaboration with the Federal Ministry of Health, instituted a Technical Working Committee for the development of a National Healthcare Waste Management Policy, Guideline and Plan of action.

While I am confident that the implementation of the Policy will contribute immensely to the realization of the goals set out for health care waste management, I wish to enjoin all stake holders to follow the Policy to ensure that all goals and strategic plan are achieved.

Finally, I commend everyone who has contributed to the development of this policy and recommend that the document be disseminated to all health facilities both public and private, Federal Ministry of Health, State Ministries of Health and Environment as well as key implementing partners national and international to support the implementation of the policy

**Prof. C O O Chukwu
Honourable Minister,
Federal Ministry of Health**

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We sincerely appreciate the efforts of both present and past Ministers and Permanent Secretaries particularly Mr. Taiye Haruna in the development of these documents.

I sincerely hope that the use of these documents would bring the desired change in the way and manner HCW is handled and managed in Nigeria.

Mrs. O.O. Babade
Director Pollution Control & Environmental Health
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HEALTHCARE WASTE MANAGEMENT POLICY IN NIGERIA

1. Introduction to the HCWM Policy

The World Health Organisation (WHO) describes healthcare waste (HCW) as “a by product of healthcare that includes sharps, non-sharps, blood, body parts, chemicals, pharmaceuticals, medical devices and radioactive materials”. Poor management of HCW exposes healthcare workers, waste handlers, dustbin scavengers and the community to infections, toxic effects and injuries. The WHO estimates that between 15% and 25% of healthcare waste generated through activities that take place in healthcare facilities are hazardous to both humans and the environment. It further estimated that in the year 2000, 21 million hepatitis B virus infections, 2 million hepatitis C virus infections and 260, 000 HIV infections occurred worldwide due to injections with contaminated needles and syringes. In 2002, WHO conducted an assessment of HCW management practices in 22 developing countries and found that between 18% and 64% of the healthcare facilities (HCFs) did not use proper waste disposal methods. The situation may be worsening, considering the strain in the entire healthcare delivery system in most developing countries.

1.2 Healthcare Waste Management Situation in Nigeria:

Medical institutions generate healthcare waste that if not properly handled and disposed, pose health risks to staff, patients and the ecosystem/environment. Major sources of healthcare waste generated in Nigeria are from teaching/specialist Hospitals, General Hospitals, big private hospitals and laboratories, mortuaries and research centres.

It is estimated that between 10% and 25% of healthcare waste generated by medical institutions are hazardous in nature. However, in a Medical Waste Management survey conducted by Aliyu in sampled health institutions in the Federal Capital Territory (FCT) in 2006, 26.5% of the healthcare wastes generated were found to be hazardous.

Healthcare waste management practices as revealed by the survey were grossly unsatisfactory, which could be representative of what is obtainable in most medical institutions across the nation. A case study conducted in 2011 in a tertiary facility in Nigeria by Stephen Obekpa Abah et al revealed. The proportion of respondents who had received specific training in the management of HCW was 11.5% (6/52). The number who understood the importance of HCW management in the provision of safety to the public was 46% (24/52). The level of healthcare waste management practice was found to be 0 (that is, unsustainable). The study highlights the need for a national HCWM policy in his recommendation for a way forward in safe HCWM.

The weaknesses found in the HCWM system in Nigeria include:

- Absence of HCWM plans in most medical institutions
- Weak coordination of HCWM system at all levels.
- Poor/lack of segregation of healthcare waste at health facility levels
- Deficient/non-existent HCW colour-coding and labelling system
- Poor hygiene practices in collection, storage, transportation, treatment and final disposal of healthcare waste
- Waste handlers lack Personal protective equipment (PPE)
- Indiscriminate dumping of healthcare waste into public dumpsites
- Use of locally built low temperature incinerators without adequate protection to the environment
- Healthcare solid wastes are either buried or burnt at low temperature in open pits
- High risks of injury and infection to healthcare waste handlers and scavengers
- Absence of post exposure prophylaxis (PEP) to those who sustain needle stick injury, with increased risk of HIV, HBV & HCV infections.
- Lack of healthcare waste management information system

In June/July 2004, a national cross-sectional survey on injection and healthcare waste management practices was conducted under the auspices of the National Injection Safety Forum. The findings from the survey showed that over 65% of health facilities had improper management of healthcare waste. Other studies also confirmed that the practice of indiscriminate dumping of used materials was prevalent in most of the surveyed health facilities. Only a few of the facilities had incineration facilities which in most cases, were improperly used or non functional.

The 2009, comparison reports on injection safety and health care waste management showed a significant improvement on the 2004 baseline assessment. The use of safety boxes for disposal of sharps in health facilities increased from 14.2% to 98.0%. Despite this improvement, segregation of waste was still low, though improved from 11.25% to 52.0%. 3.9% of health facilities visited treated and disposed of healthcare waste appropriately at baseline, this figure increased to 4.9% at the follow on survey. This dismal practice reflects a non-systemic approach to the management of health care waste due primarily to the absence of a HCWM policy.

1.3 Justification for National HCWM Policy

It is known that Healthcare Waste (HCW) generated by medical institutions can transmit infectious diseases to people who are exposed to them and have harmful environmental effects if disposed of in an inadequate/improper manner. The implementation of safe practice of Healthcare Waste Management (HCWM) in public and private medical institutions is a priority issue which the Federal Ministry of Environment in collaboration with Federal Ministry of Health and other stakeholders have decided to address. The Revised National policy on Environment (1999,

FMEEnv), the National Policy on Injection safety and HCWM (2007, FMOH), though did not specifically address healthcare waste management in its entirety, provides the basis for the development of a National HCWM Policy in Nigeria. Although Nigeria has ratified some international Conventions such as the Basel Convention, there is currently no specific framework, legislation, regulations or by-laws for healthcare waste management practices in Nigeria. In spite of existing different legal edits, bye-laws referencing healthcare waste management in Nigeria, safe HCWM is far from being achieved. The development of this policy will set out clear guidelines for the national framework on HCWM in the country

1.4 Purpose of the HCWM Policy

The HCWM Policy subscribes to the vision, goals and principles and the regulatory approach set out in the National Environmental Policy.

This policy shall be applied in both public and private medical/health institutions in Nigeria, and at the national, state and local Government levels. The healthcare waste management policy will be implemented in a holistic manner in the generation, storage, collection, transportation, treatment, the final disposal of the waste, and after care of the disposal site. The Policy also serves as statement of intent by the Government of Nigeria on how to manage and minimize waste generated from both the public and private health institutions, in a way that takes cognizance of the health of those handling the healthcare waste, the environment and the community so affected.

1.5 Policy Goal and Objectives

1.5.1. The goal of the Policy is to create an enabling environment that contributes to effective and efficient healthcare waste management practices with minimal harmful environmental impact.

1.5.2 Policy Objectives

- To promote best practices in healthcare waste management in all Health Care institutions in Nigeria
- To institute mechanisms for effective and sustainable healthcare waste management practices at all levels in Nigeria
- To promote the development of institutional and human capacities for effective implementation of healthcare waste management activities in all medical institutions in Nigeria.
- To provide a mechanism, for effective coordination of healthcare waste management activities in all medical establishments in Nigeria.
- To mobilize resources for effective and sustainable implementation of healthcare waste management activities in all medical institutions in Nigeria.

- To set standard of healthcare waste management practices that meet international requirements.
- To promote partnership among various key players involved in environmental protection/conservation efforts
- To promote/support operational research in healthcare waste management practices and their impact on environment/community.

1.6 Guiding Principles

This Policy is premised on:

- Health Care Waste Management standards set by the World Health Organization (WHO).
- The prevention of health risks associated with exposure to health-care waste for both healthcare workers, the public and the environment
- Reduction in the amount of noxious emissions into the atmosphere
- Existing international Conventions, Treaties, Regulations as well as the Constitution of the Federal Republic of Nigeria and related Acts
- Multi-sectorial approach to policy implementation

1.6.1 Policy Statement

The Federal Ministry of Environment pursues the policy by which all the HCW generated by the Health Care institutions in the public and private sectors of Nigeria must be safely handled and disposed of. This policy seeks to hold every Health Care facility accountable for the safe handling and disposal of health care waste it generates. Also, it is expected that these medical institutions shall set up mechanisms by which issues of healthcare waste management are addressed. Medical establishments shall be expected to make adequate budgetary allocation to carry out the implementation of healthcare waste management activities.

The relevant department or agency of the Federal Ministry of Health will ensure compliance within the Federal Health facilities, while the same will be applicable at State and LGA levels within the state Ministry of health and LGA health department.

The Federal Ministry of Environment with its associated agencies will ensure adherence to appropriate standards for the transport, treatment and disposal of healthcare waste, this will be applicable at the State and LGA levels by the State Ministry of Environment or its relevant agency or department and the relevant department at the LGA level.

2.0 Safe Healthcare Waste Management Practices

The principles that govern healthcare waste management shall be pursued by each health care facility (HCF) to ensure the safety of staff, patients and the environment. Therefore, HCF shall:

- Minimize the amount of infectious and hazardous waste it generates

- Segregate the healthcare waste generated into hazardous and non-hazardous parts
- Conduct capacity building of staff on appropriate HCWM practices.
- Use WHO approved colour- coding system to segregate waste (see WHO website)

3.0 Collection, Storage, Transportation, treatment and disposal of Health Care Waste

The nature and quantity of healthcare waste generated depend on the type of health facility. Irrespective of the type of HCF, the management of waste must be consistent from the point of generation to the point of final disposal (i.e. from “cradle” to “grave”).

Healthcare waste actors in each HCF shall ensure that:

- Amount of healthcare waste generated is minimized through sound procurement principles and logistics management.
- Healthcare waste generated is collected on a regular basis by a designated staff
- Healthcare waste is stored appropriately in a designated site within the facility or its vicinity
- Healthcare waste is transported in a safe manner to the site of its treatment and final disposal

4.0 Treatment and Disposal Options for Healthcare Waste

Depending on the type of facility and resource-availability, the following treatment and disposal options shall be adopted for safe disposal of healthcare waste.

- Chemical disinfection
- Microwave irradiation
- Hydroclave
- Autoclave (with or without shredding)
- High temperature Incineration (through use of dual chamber incinerators that are environmentally friendly to reduce levels of toxic substances such as furan and dioxins with their associated health risks. Resultant toxic ash should be disposed of in an environmentally friendly manner e.g. deep burial in a protected pit or encapsulation).
- Waste Disposal Units (High temperature and dual chamber)
- Encapsulation
- Environmentally sound manner for Mercury waste e.g. (Immobilization)
- Sanitary Landfill

(The details for each of the methods are contained in the National Guidelines on Health Care Waste Management in Nigeria)

5.0 Protection of Staff, Patients, healthcare waste handlers & Environment from Risks associated with healthcare waste

Hazardous healthcare waste poses different levels of health risks to staff, patients and the environment. To minimize or eliminate these potential risks, HCF management shall ensure that:

- The concept of “duty of care” is observed in handling healthcare waste
- Healthcare waste is adequately handled, stored and safely transported to the site for treatment and final disposal
- Healthcare waste handlers are provided with personal protective equipment (PPE)
- Appropriate materials are used for the storage of health care waste
- Those who handle healthcare waste receive regularly, appropriate immunisation
- Standard operating procedures (SOPs) are in place to apply in the event of accidental spillage of healthcare waste.

6.0 Institutional Framework for Policy Implementation (Operational Guidelines)

The implementation of this Policy shall follow the existing governance and healthcare delivery system structures in the country. The operation of the HCWM plan shall therefore cover the national, state and local government levels. Both public and private medical institutions in the country shall also set up their HCWM plans.

6.1 At the National Level:

As the management of the health care waste is the primary responsibility of the Federal Ministry of Environment, there shall be a National Steering Committee (NSC) under the Federal Ministry of Environment that shall provide an oversight function for policy implementation at all levels. Similar Committees will be established at the state and local government levels.

The members of the Committee shall be drawn from the following:

- Federal Ministry of Environment
- Federal Ministry of Health
- Federal Ministry of Agriculture
- Federal Ministry of Water resources
- National Primary Health Care Development Agency
- National Environmental Standard and Regulation Enforcement Agency
- Nigeria Nuclear Regulatory Agency
- Ecological Fund Office
- Representative of NGOs in waste management
- Environmental Health Officers Registration council of Nigeria
- Representative of Public Tertiary Health Institutions

- Representative of the Academia
- Representative of the Private Sector –Health (AGPMPN)
- Representative of USAID
- Representative of a state per zone to be represented in the Committee. (The selection shall be in alphabetical order per zone and for a duration of one year).

6.2 Roles & Responsibilities of the National Steering Committee (NSC)

The NSC on HCWM shall be responsible for:

- Setting the standard for best practices in healthcare waste management that meet international requirements
- Reviewing/implementing National Guidelines and National Action Plan on healthcare waste management
- Mobilizing resources from national and international sources for carrying out healthcare waste management activities
- Review standardized tools for healthcare waste management information system
- Collaborating/partnering with relevant national and international organizations to conduct operational research on best healthcare waste management practices and environmental impact mitigation.
- Conducting annual review meetings with all relevant stakeholders.
- Conducting quarterly technical review meetings.
- Setting up appropriate Technical Working Groups (TWGs) to undertake specific tasks, including policy review.
- Creating and sustaining linkages with relevant ministries that facilitate licencing, bidding and regulation of HCWM activities, especially as it affects private partner participation.
- Annual reporting/briefing to the National Council of Health and the National Council on Environment at their annual meetings.
- Selection of one state per zone to be represented in the steering committee. (The selection shall be in alphabetical order per zone and for duration of one year).
 - ✓ *At the state level, the state Governor should select a representative from either the state Ministry of Health or Environment to represent the selected state in the NSC.*

The NSC shall have a National Coordinator whose secretariat shall be domiciled in the Federal Ministry of Environment

7.0 Setting up of Infection Prevention and Control committees with Health Care Waste Management Committees as subset in all Health Care Facilities (HCFs).

The management of major medical institutions at both Federal and State levels shall set up facility-based HCWM Committees as a subset of their Infection Prevention and Control committees. The Committee shall:

- Draw its membership from various units within the facility
- Have a designated officer with requisite experience in management of healthcare waste (Environmental Health Officer or Public Health officer) as its Coordinator, who shall be responsible for monitoring the day to day HCWM activities in the facility
- Draw up annual HCWM plans for approval by management and LGA/State/National Steering Committees.
- Monitor the HCWM practices within the facility
- Report regularly to facility management board and the LGA/State/National HCWM Steering Committees.
- Carry out awareness campaigns on HCWM practices for staff and members of the community
- Mobilize support from private foundations, organizations etc for its activities
- Carry out capacity building for staff
- Maintain high quality services by using Standard Operating Procedures (SOPs) for carrying out HCWM activities.

8.0 Infrastructural and Human Capacities Development

For effective implementation of HCWM work plan, Government and management boards of various medical institutions shall:

Provide appropriate equipment, tools and gadgets for safe storage, transportation, treatment and final disposal of healthcare waste

Seek collaboration with national and international bodies, companies and organisations, to promote the use of appropriate technologies in health care waste generation, storage, transportation, treatment and final disposal.

Monitor the procurement of equipment for healthcare waste management that are environmentally friendly.

Make training of staff an integral part of HCWM planning.

9.0 Resource Mobilization

The National Steering Committee will be funded through;

- Funding from annual budgetary allocations from both Federal Ministry of Environment and Federal Ministry of Health;
- Funding through Ecological funds office (EFO);

- Mobilization of financial and technical support from donor agencies (WHO, UNICEF, USAID, CDC, JICA, CIDA, EU, UNEP and DFID)

Governments and boards of medical institutions shall ensure that HCWM plans are implemented through:

- Annual budgetary allocation for HCWM activities
- Forging partnership and collaboration with local, national or international organisations in implementing HCWM projects.

10.0 Public-Private Partnership (PPP)

Private sector involvement and partnership is an essential component for the implementation of sustainable HCWM plans in the medical institutions. The Government will encourage the participation of the private sector by supporting enterprises that may be involved in the production at a reasonable price of adequate materials and equipment useful for the implementation of the HCWM plans. The policy shall seek to promote partnership with private companies involved in the collection, transportation and treatment of healthcare waste in selected settings.

11.0 The Greenhouse Effect

The greenhouse effect is a global phenomenon of which Nigeria subscribes to its efforts at mitigating its impact on her environment. Therefore, medical institutions shall promote the use of 'green procurement' of equipment and tools for use in healthcare waste management.

12.0 Research

Improper healthcare waste management practices pose risk to both humans and the environment. Studies have also revealed that certain toxic substances are released into the environment through use of certain types of incinerators. This policy shall therefore seek to promote research on:

- The use of appropriate technologies for healthcare waste storage, treatment and final disposal
- The environmental impact of healthcare waste management practices
- Best practices in healthcare waste management.

13.0 Monitoring & Evaluation

The implementation of this policy shall be monitored and evaluated to meet its objectives. The participatory monitoring and evaluation involving all stakeholders shall be used to ensure continual improvement in its implementation. Reporting

procedures will be prepared and implemented at the different administrative (decision making) levels to ensure coherent and easy data analysis. Healthcare waste management information tools shall be developed at the NSC for use at the health facility level.

The National Steering Committee on Healthcare Waste Management will be responsible for the overall monitoring and evaluation, with the State Ministries of Health and Environment and the Local Government Departments of Health and Environment, responsible for the implementation of monitoring procedures in the medical institutions located within their area of jurisdiction as will be addressed in the National Guidelines.

14.0 Legislation

- To give legal backing to this policy, appropriate legislation shall be invoked.
- This Policy has been prepared under the control of existing international, national and state legislations. It shall therefore be subject for review as issues emerge that affects these legislations.